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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/917,383	07/28/2001	Shi-You Ding	NREL01-37	9967

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EXAMINER	
PATTERSON, CHARLES L JR	
ART UNIT	PAPER NUMBER
1652	

DATE MAILED: 06/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/917,383	DING ET AL.	
	Examiner	Art Unit	
	Charles L. Patterson, Jr.	1652	

-- *The MAILING DATE of this communication appears on th cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/3/01, 1/8/02, 7/5/02 and 5/1/03* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24,27-35,43,44,48-54 and 58-68* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24,27-35,43,44,48-54 and 58-68* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Applicant's election with traverse of Group I, claims 1-12, 14-15, 27-34 and 43-44 in Paper No. 13 is acknowledged. Due to the instant amendment to the claims, all pending claim, i.e. claims 1-24, 27-35, 43, 44, 48-54 and 58-68 will be examined.

It is noted that claim 24 is noted on page 5 of the amendment as both being "currently amended" and "cancelled". The examiner has considered it as being "currently amended" and ignored the "cancelled" notation. If this is incorrect applicants should so notify the examiner.

It is noted that residues 1-176, 184-733, 756-840, 860-874, 877-1090, 1128-1194 and 1197-1228 of SEQ ID NO:1 are the same as SEQ ID NO:6, with SEQ ID NO:6 being 1043 residues long. According to Table 5, SEQ ID NO:6 is only supposed to be 85 residues long, from 756-840 of SEQ ID NO:1. Also, residues 16 and 17 of SEQ ID NO:7 are DG while the corresponding residues of SEQ ID NO:1 are GD, and residues 67-68 of SEQ ID NO:8 are YS while the corresponding residues of SEQ ID NO:1 are SY, and supposedly they are supposed to be identical. Because SEQ ID NO:6 is not included in the instant claims and there is apparently only error in SEQ ID NO:7 and 8, an action is being done on the instant application. However these discrepancies must be corrected before the application is allowed.

The disclosure is objected to because of the following informalities:

Figure 2 is objected to because it is not a good copy and the words especially are unclear. Some of the words cannot be read, such as the footnote at the bottom, and all of the words in column 1 are fuzzy and/or unclear.

Appropriate correction is required.

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-24, 27-35, 43, 44, 48-54 and 58-68 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-11, 26, 27, 36-43, 44, 45 and 69-74 of copending Application No. 09/917,384. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Application 09/917,384 contains SEQ ID NO:1, 2, 4, 5, 7 and 8 that are 100% identical with the same sequences in the instant application. Since SEQ ID NO:1 encoded by SEQ ID NO:2 is supposed to be the enzyme claimed in claim 1, all of the claims of the instant application are provisionally rejected over all of the claims of 09/917,384, even though the instant application is drawn to "GuxA" and 09/917,384 is drawn to "Gux1". Exactly what the claims would be at allowance of either application is not known and since the sequences are identical, all of the claims are rejected under 35 USC 101 double patenting rather than some of the claims being rejected under obviousness-type double patenting.

Claims 22-24 and 68 are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a specific substantial asserted

utility or a well established utility. The instant claims are drawn to "a heterologous combination" of the GH6 and GH12 catalytic domains and the CBDII and CBDIII carbohydrate bind domains. This would appear to be the enzyme shown in Fig. 1 minus the signal, FnIII and linker domains in no particular order. Although Example 4 discusses combining the domains of the instant enzyme with those of other enzymes, there is no teaching that it will have any activity or utility. These claims are drawn to supposedly removing the signal, FnIII and linker domains from GuxA and there is no limitation on what the order is or whether other elements are added. This embodiment has not be shown to be operable.

Claims 22-24 and 68 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Claims 10, 20, 21, 49, 59, 62, 64 and 68 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 is confusing and apparently incorrect in the recitation of "(CBD) type III…SEQ ID NO:8". Since SEQ ID NO:8 is defined in the specification as being CBD II, apparently the correct recitation should be "(CBD) type II…SEQ ID NO:8".

Claim 20 is confusing, indefinite and apparently incorrect in the recitation of "comprising an amino nucleic acid sequence at least 90% sequence

identity to SEQ ID NO:1". Apparently the correct recitation should be "comprising an amino acid sequence at least 90% sequence identity to SEQ ID NO:1".

Claim 21 is confusing, indefinite and apparently incorrect in the recitation of "comprising an amino nucleic acid sequence having at least 90% identity to an amino acid sequence encoded by SEQ ID NO:2". Apparently the correct recitation should be "comprising an amino acid sequence encoded by a nucleic acid sequence having at least 90% identity to SEQ ID NO:2".

Claim 49 is confusing and indefinite in that it depends from itself.

Claim 59 is confusing in the recitation of "a substrate exposed" on line 5. It not known from the claim language what "exposed" is referring to.

Claim 62 is indefinite in the recitation of "method of claim 58 wherein the agent of interest is an antibody". The claim lacks antecedent basis in claim 58 for "agent of interest". Perhaps claim 59 was intended.

Claim 64 is confusing in that it depends from claim 62 and adds a second polypeptide molecule. Claim 62 does not add a first polypeptide molecule. Perhaps the claim should depend from claim 63.

Claim 68 is confusing and apparently incorrect in the recitation of "comprises-a" on line 2, which should apparently be "comprises a".

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 27, 35 and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakon, et al. (U). The instant reference teaches an amino acid sequence that is 72.1% identical with SEQ ID NO:8 (see sequence search attached to reference). They also teach the polypeptide bound to cellulose at least in the assay and a carrier at least in the purification wherein it is placed in a buffer.

Claims 1-21, 27-35, 43, 44, 4854 and 58-67 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over either of Tucker, et al. (AA), Adney, et al. (AB), Himmel, et al. (AC), Lastick, et al. (AD) or Barker, et al. (AJ). The instant reference each teach a thermostable cellulase from *Acidothermus cellulolyticus* that it is maintained it the enzyme of the instant claims, absent convincing proof to the contrary. Sequencing of an enzyme does not lend any patentability to the enzyme *per se*. It is maintained that all of the other requirements of the instant claims are met by the instant references or would have been obvious, absent a convincing argument to the contrary.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles L. Patterson, Jr., PhD, whose telephone number is 703-308-1834. The examiner can normally be reached on Monday - Friday, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapura Achutamurthy can be reached on 703-308-3804. The fax phone number is 703-308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Charles L. Patterson, Jr.
Primary Examiner
Art Unit 1652

Patterson
June 11, 2003